



Data sheet: CO2 traffic light housing CO2-A 100 2

The microprocessor-controlled CO₂-measuring instrument is used to measure the CO₂ content of the air in the range of 0 to 3,000 ppm. The measuring signals are optically displayed by 6 colored LEDs. The CO₂ content of the air is determined by means of an optical sensor (NDIR), non-dispersive infrared technology. By using the sensor according to the dual principle, disturbances of the measurement by pollution and aging can be excluded as far as possible, so that a long function time of the device is ensured. Calibration is not necessary under normal operating conditions. The application of the CO₂ traffic light is particularly recommended in teaching rooms and conference rooms, as controlled ventilation behavior keeps the maximum CO₂ room air concentration within limits, thus increasing the ability to concentrate. As a signal effect, an acoustic signal tone can be switched on at a room air concentration of 900/1,200/1,500/1,800 ppm.



Technical Details	CO ₂ -A 100 2, article number 1001
Measuring method	Dual Wavelength NDIR, With ABC- Self-calibration logic (factory setting)
Measuring area	0–3.000 ppm
Measurement precision (25°, 77°F, 3.000ppm)	± 75 ppm or 10% of the reading value (the highest value in each case)
Responsiveness	< 2 Minutes for 90% step by step
Measuring interval	2 sec
Temperature dependence	0,2 % / °C
Environmental conditions	0 - 50 °C, 0-95% rel. F, non condensing
Power supply	24 VAC/VDC
Output	0-10 V or 4-20 mA adjustable with jumper
Electrical connection	Mains plug (included in scope of delivery)
Power consumption	2,0 W
Case dimensions	130 x 85 x 39,5 mm

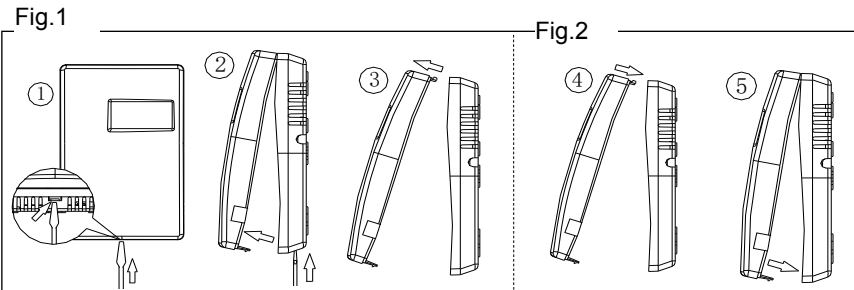
Weight	240 g
Montage	Wall mounting or table stand (included)
Protection class	III according to EN 60730 and IP31 according to EN 60 529

Meter display

Green 1	0 up to 600 ppm
Green 1 and Green 2	600 up to 1.000 ppm
Yellow 1	1.000 up to 1.200 ppm
Yellow 1 and Yellow 2	1.200 up to 1.600 ppm
Red 1	1.600 up to 2.000 ppm
Red 1 and Red 2	> 2.000 ppm
Acoustic signal tone	900/1.200/1.500 (Factory setting)/1.800 ppm

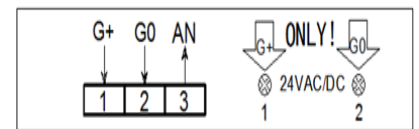
Mounting on wall

1. For mounting on the wall, open the sensor according to the figure below and fix the back plate on the wall. The mounting location should not be behind the door, near radiators or in a corner. The sensor must be protected from direct sunlight and magnetic waves.



Connection

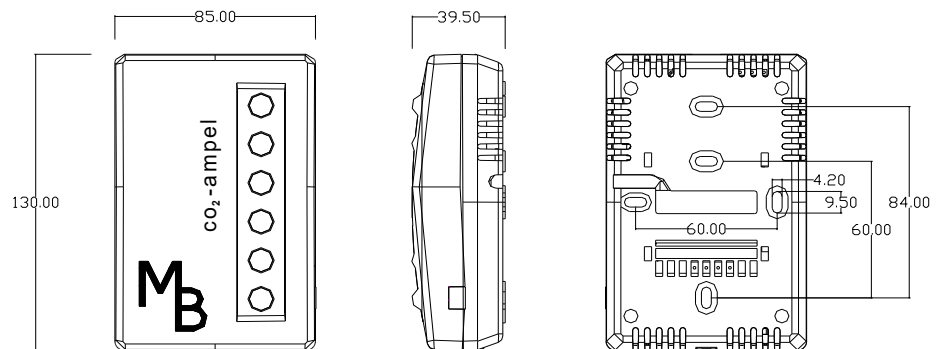
2. The connection is made as shown in the figure. Terminals 1 and 2 are to be used for voltage input, terminals 2 and 3 for output. Caution: Improper connection will destroy the sensor.



First use

After connecting the voltage, the warm-up time starts and the LEDs flash for 30 seconds. During initial start-up (or when not used for longer than one month), the warm-up time is 24 hours, after which the sensor operates stably. The normal warm-up time is 5 minutes.

Dimensions

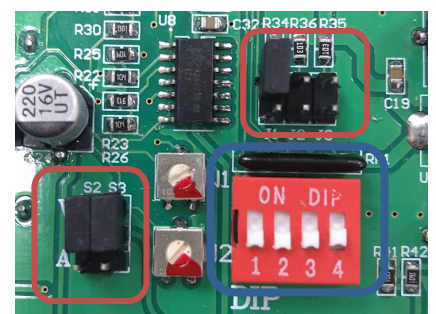


Setting the audible alarm value

As a signal effect an acoustic signal tone can be switched on at a room air concentration of ppm. For this purpose the jumpers P and P must be set as shown in the figure.

- P = ON alarm is switched off
- P = OFF alarm is switched on

DIP2	DIP3	Alarm value
OFF	OFF	1.500ppm (factory setting)
OFF	ON	900ppm
ON	OFF	1.200ppm
ON	ON	1.800ppm



Self-calibration

The self-calibration can be switched on or off by means of the DIP 4 switch.

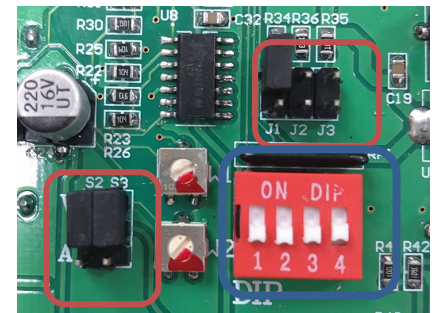
- DIP 4 = OFF, self-calibration On, (factory setting)
- DIP 1 = ON, self-calibration off

Analog output

Before the output is changed, the sensor must be de-energized.

Open the housing as described and change the jumper J1, and the jumpers S2 and S3 according to the table.







Jumper S2-S3	Jumper J1	Analog outputs
Above both pins connected (V side)	Not connected	0~10VDC (factory set.)
Below both pins connected (A side)	Not connected	0~20mA
Above both pins connected (V side)	Connected	2~10VDC
Below both pins connected (A side)	Connected	4~20mA



Instruction

1. To protect the infrared CO2 sensor, please avoid shaking or hitting it.
2. During initial start-up or after a longer period of unuse, the CO2 sensor must be switched on continuously for at least 2 days to ensure that the self-calibration system of the CO2 sensor functions properly.
3. Self-Calibration: The sensor has a self-calibration feature. The sensor self-calibrates every 14 days when exposed to outside air (400ppm).

CO2- value

-  CO2- value of the room air above 2.000 ppm
Poor air quality
Please ensure air exchange
-  CO2 value of the room air 1,600 to 2,000 ppm
Low air quality Ventilation start
-  CO2 value of the room air 1,200 to 1,600 ppm
There is a medium air quality
- Acoustic signal tone at ppm factory setting)**
-  CO2 value of the room air 1,000 to 1,200 ppm
There is still a high air quality
-  CO2 value of the room air 600 to 1,000 ppm
No significant load
-  CO2 value of indoor air up to 600 ppm
Outside air depending on the area

Instruction manual CO₂A 100

The CO₂ traffic light is supplied with a plug-in power supply unit. Mount the device on the wall as described in the mounting instructions or with the wall-mounted table stand supplied as an accessory.

Connect the power plug to the device on the side of the housing. The CO₂ traffic light can be used immediately. After the self-calibration (all LEDs light up) of up to 2 minutes, the device is ready for operation and immediately displays the CO₂- room air concentration.

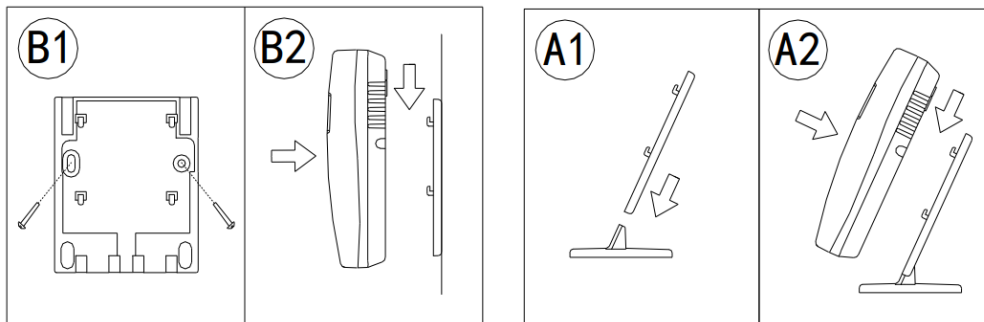
The colored LEDs light up individually and represent the subsequent room air concentrations. Additionally, an acoustic signal tone can be switched on when exceeding 1,500 ppm.



Assembly instruction CO2 A 100

A = table stand

B = Wall mounting



For more information, please visit our website:

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